IN THE CLAIMS

Please amend the claims as follows.

1.   (Currently Amended) A method for performing data analysis on data gathered in an
electronic device manufacturing process comprising:

        collecting production data by taking at least one measurement directly on an item that is
undergoing processing in the electronic device manufacturing process;

        collecting non-production data by taking at least one measurement related to an entire
manufacturing facility where the electronic device manufacturing process resides and not
directly related to the electronic device manufacturing process;

        performing calculations on the production data including weighting the production data
based on distance between a sampling point for the production data and a process location;

        performing calculations on the non-production data including weighting the non-
production data based on distance between a sampling point for the non-production data and a
process location;

        keying the production data;

        keying the non-production data;

        combining the production data and the non-production data into a single data set;

        storing the single data set on a computer memory; and

        analyzing said single data-set to determine conditions in the electronic device
manufacturing process.

2.   (Original) The method of claim 1, wherein collecting production data includes collecting
production data from a test probe.

3.   (Original) The method of claim 1, wherein collecting production data includes collecting
parametric production data.

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4.   (Original) The method of claim 1, wherein collecting production data includes collecting data on film thickness.

5.   (Original) The method of claim 1, wherein collecting production data includes collecting data on critical dimensions.

6.   (Cancelled)

7.   (Original) The method of claim 1, wherein collecting non-production data includes collecting non-production data from a single data source at a single source location.

8.   (Original) The method of claim 1, wherein collecting non-production data includes collecting non-production data from a single data source from a plurality of locations.

9.   (Currently Amended) A method for performing data analysis on data gathered in an electronic device manufacturing process, comprising:

        collecting production data by taking at least one measurement directly on an item that is undergoing processing in the electronic device manufacturing process;

        collecting non-production data from a single data source from at least one of a plurality of locations with some temporal periodicity by taking at least one measurement related to an entire manufacturing facility where the electronic device manufacturing process resides and not directly related to the electronic device manufacturing process;

        performing calculations on the production data including weighting the production data based on distance between a sampling point for the production data and a process location;

        performing calculations on the non-production data including weighting the non-production data based on distance between a sampling point for the non-production data and a process location;

        keying the production data;

        keying the non-production data;

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combining the production data and the non-production data into a single data set;

storing the single data set on a computer memory; and

analyzing said single data-set to determine conditions in the electronic device

manufacturing process.

10.   (Original) The method of claim 9, wherein the temporal periodicity is fixed.

11.   (Cancelled)

12.   (Original) The method of claim 9, wherein collecting non-production data includes
collecting atmospheric data.

13.   (Original) The method of claim 9, wherein collecting non-production data includes
collecting facility related quality data.

14.   (Original) The method of claim 9, wherein collecting non-production data includes
collecting equipment control data.

15.   (Original) The method of claim 9, wherein collecting non-production data includes
collecting metrology tool calibration data.

16.   (Cancelled)

17.   (Previously Presented) A method for performing data analysis on data gathered in an
electronic device manufacturing process, comprising:

collecting production data by taking at least one measurement directly on an item that is
undergoing processing in the electronic device manufacturing process;

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collecting non-production data by taking at least one measurement related to an entire manufacturing facility where the electronic device manufacturing process resides and not directly related to the electronic device manufacturing process;

performing calculations on the production data;

performing weighted mean calculations on the non-production data;

keying the production data;

keying the non-production data;

combining the production data and the non-production data into a single data set;

storing the single data set on a computer memory; and

analyzing said single data-set to determine conditions in the electronic device manufacturing process.

18.   (Previously Presented) The method of claim 17 wherein the weighted mean calculations are weighted first by location where a plurality of data sources are from a plurality of locations, given by the following equation:

$$V = \sum_{n=1}^{i} \left[\frac{d_i}{\sum_{n=1}^{i} d_i} \right] S_i$$

where, V is a calculated data point, d_i is a distance between a sampling point and a process location and S_i is data being measured at the sampling point.

19-22. (Cancelled)

23.   (Previously Presented) A method for performing data analysis on data gathered in an electronic device manufacturing process, comprising:

collecting production data by taking at least one measurement directly on an item that is undergoing processing in the electronic device manufacturing process;

collecting non-production data by taking at least one measurement related to an entire manufacturing facility where the electronic device manufacturing process resides and not directly related to the electronic device manufacturing process;

performing calculations on the production data;

performing weighted mean calculations on the non-production data;

keying the production data;

keying the non-production data;

identifying points of data commonality between the production and non-production data set;

defining relationships based on the identified commonalities;

combining the production data and the non-production data based on the defined relationships into a single data-set;

storing the single data-set on a computer memory; and

analyzing said single data-set to determine conditions in the electronic device manufacturing process.

24.   (Original) The method of claim 23, wherein analyzing said single data set includes performing a trend analysis.

25.   (Original) The method of claim 23, wherein analyzing said single data set includes statistical analysis.

26.   (Currently Amended) A method for detecting trends in electronic device manufacturing, comprising:

collecting production data by taking at least one measurement directly on an item that is undergoing processing in an electronic device manufacturing process;

collecting non-production data by taking at least one measurement related to an entire manufacturing facility where the electronic device manufacturing process resides and not directly related to the electronic device manufacturing process;

performing calculations on the production data including weighting the production data based on distance between a sampling point for the production data and a process location;

performing calculations on the non-production data including weighting the non-production data based on distance between a sampling point for the non-production data and a process location;

keying production data;

keying non-production data;

combining the production data and the non-production data into a single data set;

storing the single data set on a computer memory;

analyzing said data set; and

examining the analysis of the data for conditions of the electronic device manufacturing process.

27.   (Original) The method of claim 26, wherein collecting production data includes collecting production data from a test probe.

28.   (Original) The method of claim 26, wherein collecting production data includes collecting parametric production data.

29.   (Original) The method of claim 26, wherein collecting production data includes collecting data on film thickness.

30.   (Original) The method of claim 26, wherein collecting production data includes collecting data on critical dimensions.

31.   (Cancelled)

32.   (Original) The method of claim 26, wherein collecting non-production data includes collecting non-production data from a single data source at a single source location.

33.   (Original) The method of claim 26, wherein collecting non-production data includes collecting non-production data from a single data source from a plurality of locations.

34.   (Currently Amended) A method for detecting trends in electronic device manufacturing, comprising:

     collecting production data by taking at least one measurement from an electronic device manufacturing process directly related to <u>a machine used in</u> the electronic device manufacturing process <u>and taken at the time the electronic device manufacturing process is being performed on an item</u> and that is not measured on ~~an~~ <u>the</u> item that is undergoing processing in the electronic device manufacturing process;

     collecting non-production data from a single data source with some temporal periodicity by taking at least one measurement related to an entire manufacturing facility where the electronic device manufacturing process resides and not directly related to the electronic device manufacturing process;

     performing calculations on the production data <u>including weighting the production data based on distance between a sampling point for the production data and a process location</u>;

     performing calculations on the non-production data <u>including weighting the non-production data based on distance between a sampling point for the non-production data and a process location</u>;

     keying the production data;

     keying the non-production data;

     combining the production data and the non-production data into a single data set;

     storing the single data set on a computer memory;

     analyzing the single data set; and

     examining the analysis of the data for conditions of the electronic device manufacturing process.

35.   (Original) The method of claim 34, wherein the temporal periodicity is fixed.

36.   (Cancelled)

37.   (Original) The method of claim 34, wherein collecting non-production data includes collecting atmospheric data.

38.   (Original) The method of claim 34, wherein collecting non-production data includes collecting facility related quality data.

39.   (Original) The method of claim 34, wherein collecting non-production data includes collecting equipment control data.

40.   (Original) The method of claim 34, wherein collecting non-production data includes collecting metrology tool calibration data.

41.   (Cancelled)

42.   (Currently Amended) A method for detecting trends in electronic device manufacturing, comprising:

        collecting production data by taking at least one measurement from an electronic device manufacturing process directly related to a machine used in the electronic device manufacturing process and taken at the time the electronic device manufacturing process is being performed on an item and that is not measured on an the item that is undergoing processing in the electronic device manufacturing process;

        collecting non-production data by taking at least one measurement related to an entire manufacturing facility where the electronic device manufacturing process resides and not directly related to the electronic device manufacturing process;

        performing calculations on the production data;

        performing weighted mean calculations on the non-production data;

keying the production data;

keying the non-production data;

combining the production data and the non-production data into a single data set;

storing the single data set on a computer memory;

analyzing the single data set; and

examining the analysis of the data for conditions of the electronic device manufacturing

process.

43.   (Previously Presented) The method of claim 42, wherein the weighted mean calculation
is weighted first by location where the data sources are from a plurality of locations, given by the
following equation:

$$V = \sum_{n=1}^{i} \left[\frac{d_i}{\sum_{n=1}^{i} d_i} \right] S_i$$

where, V is a calculated data point, d_i is a distance between the sampling point and a process
location and S_i is a data being measured at the sampling point.

44-45. (Cancelled)

46.   (Original) The method of claim 42, wherein keying the production data includes adding
the calculated non-production data to the appropriate production data.

47.   (Original) The method of claim 46 wherein the appropriate production data is data from
production lots that were processed during the collection of relevant non-production data.

48.   (Previously Presented) A method for detecting trends in electronic device manufacturing,
comprising:

collecting production data by taking at least one measurement directly on an item that is
undergoing processing in an electronic device manufacturing process;

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collecting non-production data by taking at least one measurement related to an entire manufacturing facility where the electronic device manufacturing process resides and not directly related to the electronic device manufacturing process;

performing calculations on the production data;

performing weighted mean calculations on the non-production data;

keying the production data;

keying the non-production data;

identifying points of data commonality between the production and non-production data set;

defining relationships based on the identified commonalities;

combining the production data and the non-production data based on the defined relationships into a single data-set;

storing the single data-set on a computer memory;

analyzing the single data-set; and

examining the analysis of the data for conditions of the electronic device manufacturing process.

49.   (Original) The method of claim 48, wherein analyzing said single data set includes performing a trend analysis.

50.   (Original) The method of claim 48, wherein analyzing said single data set includes statistical analysis.

51.   (Original) The method of claim 48, wherein the analyzing includes analyzing the data on a data processing device.

52.   (Original) The method of claim 48, wherein the analyzing includes analyzing the data on an output device.

53.   (Original) The method of claim 48, wherein the analyzing includes analyzing the data
remotely over a communications network.

54.   (Original) The method of claim 48, wherein the analyzing includes analyzing the data
remotely over a Wide Area Network.

55.   (Currently Amended) A method for detecting trends in electronic device manufacturing,
comprising:

        collecting production data by taking at least one measurement directly on an item that is
undergoing processing in an electronic device manufacturing process;

        collecting non-production data by taking at least one measurement related to an entire
manufacturing facility where the electronic device manufacturing process resides and not
directly related to the electronic device manufacturing process;

        performing calculations on the production data, wherein the measurements of the
production data are taken over time and wherein the production data is weighted based on a time
value;

        performing weighted mean calculations on the non-production data;

        keying the production data;

        keying the non-production data;

        identifying points of data commonality between the production and non-production data
set;

        defining relationships based on the identified commonalities;

        combining the production data and the non-production data based on the defined
relationships into a single data-set;

        storing the single data-set on a computer memory;

        analyzing the single data-set; and

        examining the analysis of the data for conditions of the electronic device manufacturing
process.

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56.   (Original) The method of claim 55, wherein examining analysis of the data includes comparing the analysis of the collected data to some baseline analysis and identifying areas where trends are out of specifications.

57.   (Original) The method of claim 55, wherein examining analysis of the data includes comparing the analysis of the collected data to some baseline analysis and identifying areas where readings are out of specifications.

58.   (Original) The method of claim 55, wherein examining analysis of the data includes comparing the analysis of the collected data to some baseline analysis and identifying areas where trends and readings are out of specifications.

59.   (Original) The method of claim 55, wherein the examining analysis includes storing the analyzed data on a server, accessing the data remotely over a communications network from a server and viewing the data on a client interface.

60.   (Original) The method of claim 59, wherein the examining analysis includes storing the analyzed data on a server, accessing the data remotely over a Wide Area Network from a server and viewing the data on a client interface.

61.   (Currently Amended) A computer system, comprising:

      a processor;

      at least one input device;

      at least one output device;

      at least one communications interface device;

      a storage device containing instructions for performing a method, the method comprising:

           collecting production data by taking at least one measurement directly on an item that is undergoing processing in an electronic device manufacturing process;

      collecting non-production data by taking at least one measurement related to an entire manufacturing facility where the electronic device manufacturing process resides and not directly related to the electronic device manufacturing process;

      performing calculations on the production data <u>including weighting the non-production data based on distance between a sampling point for the non-production data and a process location</u>;

      performing calculations on the non-production data <u>including weighting the non-production data based on distance between a sampling point for the non-production data and a process location</u>;

      keying production data;

      keying non-production data;

      combining the production data and the non-production data into a single data set;

      analyzing said data set; and

      examining the analysis of the data; and

a bus connecting the processor, input device, output device and storage device.

62.   (Original) The computer system of claim 61, wherein collecting production data includes collecting production data from a test probe.

63.   (Original) The computer system of claim 61, wherein collecting production data includes collecting parametric production data.

64.   (Previously Presented) The computer system of claim 61, wherein collecting production data includes collecting data on film thickness.

65.   (Original) The computer system of claim 61, wherein collecting production data includes collecting data on critical dimensions.

66.   (Canceled)

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67.   (Original) The computer system of claim 61, wherein collecting non-production data includes collecting non-production data from a single data source at a single source location.

68.   (Original) The computer system of claim 61, wherein collecting non-production data includes collecting non-production data from a single data source from a plurality of locations.

69.   (Currently Amended) A computer system, comprising:

    a processor;

    at least one input device;

    at least one output device;

    at least one communications interface device;

    a storage device containing instructions for performing a method, the method comprising:

        collecting production data by taking at least one measurement directly on an item that is undergoing processing in an electronic device manufacturing process;

        collecting non-production data from a single data source with some temporal periodicity by taking at least one measurement related to an entire manufacturing facility where the electronic device manufacturing process resides and not directly related to the electronic device manufacturing process;

        performing calculations on the production data including weighting the non-production data based on distance between a sampling point for the non-production data and a process location;

        performing calculations on the non-production data including weighting the non-production data based on distance between a sampling point for the non-production data and a process location;

        keying the production data;

        keying the non-production data;

        combining the production data and the non-production data into a single data set;

        analyzing the single data set; and

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examining the analysis of the data; and

a bus connecting the processor, input device, output device, communications interface device and storage device.

70.   (Original) The computer system of claim 69, wherein the temporal periodicity is fixed.

71.   (Cancelled)

72.   (Original) The computer system of claim 69, wherein collecting non-production data includes collecting atmospheric data.

73.   (Original) The computer system of claim 69, wherein collecting non-production data includes collecting facility related quality data.

74.   (Original) The computer system of claim 69, wherein collecting non-production data includes collecting equipment control data.

75.   (Original) The computer system of claim 69, wherein collecting non-production data includes collecting metrology tool calibration data.

76.   (Original) The computer system of claim 69, wherein collecting non-production data includes collecting any other data relevant to the production environment.

77.   (Previously Presented) A computer system, comprising:

a processor;

at least one input device;

at least one output device;

at least one communications interface device;

a storage device containing instructions for performing a method, the method comprising:

collecting production data by taking at least one measurement directly on an item that is undergoing processing in an electronic device manufacturing process;

collecting non-production data from a single data source with some temporal periodicity by taking at least one measurement related to an entire manufacturing facility where the electronic device manufacturing process resides and not directly related to the electronic device manufacturing process;

performing calculations on the production data;

performing weighted mean calculations on the non-production data;

keying the production data;

keying the non-production data;

combining the production data and the non-production data into a single data set;

analyzing the single data set; and

examining the analysis of the data; and

a bus connecting the processor, input device, output device, communications interface device and storage device.

78.   (Previously Presented) The computer system of claim 77, wherein the weighted mean calculation is weighted first by location where the data sources are from a plurality of locations, given by the following equation:

$$V = \sum_{n=1}^{i} \left[\frac{d_i}{\sum_{n=1}^{i} d_i} \right] S_i$$

where, V is a calculated data point, d_i is a distance between the sampling point and a process location and S_i is a data being measured at the sampling point.

79-80. (Cancelled)

81.   (Original) The computer system of claim 77, wherein keying the production data includes adding the calculated non-production data to the appropriate production data.

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82.   (Original) The computer system of claim 81, wherein the appropriate production data is data from production lots that were processed during the collection of relevant non-production data.

83.   (Previously Presented) A computer system, comprising:

      a processor;

      at least one input device;

      at least one output device;

      at least one communications interface device;

      a storage device containing instructions for performing a method, the method comprising:

           collecting production data by taking at least one measurement directly on an item that is undergoing processing in an electronic device manufacturing process;

           collecting non-production data by taking at least one measurement related to an entire manufacturing facility where the electronic device manufacturing process resides and not directly related to the electronic device manufacturing process;

           performing calculations on the production data;

           performing weighted mean calculations on the non-production data;

           keying the production data;

           keying the non-production data;

           identifying points of data commonality between the production and non-production data set;

           defining relationships based on the identified commonalities;

           combining the production data and the non-production data based on the defined relationships into a single data-set;

           analyzing the single data-set; and

           examining the analysis of the data; and

      a bus connecting the processor, input device, output device, communications interface device and storage device.

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84.   (Original) The computer system of claim 83, wherein analyzing said single data set includes performing a trend analysis.

85.   (Original) The computer system of claim 83, wherein analyzing said single data set includes statistical analysis.

86.   (Original) The computer system of claim 83, wherein examining analysis of the data includes comparing the analysis of the collected data to some baseline analysis and identifying areas where trends are out of specifications.

87.   (Original) The computer system of claim 83, wherein examining analysis of the data includes comparing the analysis of the collected data to some baseline analysis and identifying areas where readings are out of specifications.

88.   (Original) The computer system of claim 83, wherein examining analysis of the data includes comparing the analysis of the collected data to some baseline analysis and identifying areas where trends and readings are out of specifications.

89.   (Previously Presented) A computer system, comprising:
       a processor;
       at least one input device;
       at least one output device;
       at least one communications interface device;
       a storage device containing instructions for performing a method, the method comprising:
              collecting production data by taking at least one measurement directly on an item
       that is undergoing processing in an electronic device manufacturing process;

        collecting non-production data by taking at least one measurement related to an entire manufacturing facility where the electronic device manufacturing process resides and not directly related to the electronic device manufacturing process;

        performing calculations on the production data;

        performing weighted mean calculations on the non-production data;

        keying the production data;

        keying the non-production data;

        identifying points of data commonality between the production and non-production data set;

        defining relationships based on the identified commonalities;

        combining the production data and the non-production data based on the defined relationships into a single data-set;

        analyzing a single data-set stored remotely on a server; and

        examining the analysis of the data; and

        a bus connecting the processor, input device, output device, communications interface device and storage device.

90.   (Original) The computer system of claim 89, wherein analyzing said single data set includes performing a trend analysis.

91.   (Original) The computer system of claim 89, wherein analyzing said single data set includes statistical analysis.

92.   (Original) The computer system of claim 89, wherein examining analysis of the data includes comparing the analysis of the collected data to some baseline analysis and identifying areas where trends are out of specifications.

93.   (Original) The computer system of claim 89, wherein examining analysis of the data includes comparing the analysis of the collected data to some baseline analysis and identifying areas where readings are out of specifications.

94.   (Original) The computer system of claim 89, wherein examining analysis of the data includes comparing the analysis of the collected data to some baseline analysis and identifying areas where trends and readings are out of specifications.

95.   (Currently Amended) A computer system, comprising:

a processor;

at least one input device;

at least one output device;

at least one communications interface device;

a storage device containing instructions for performing a method, the method comprising:

collecting production data by taking at least one measurement directly on an item that is undergoing processing in an electronic device manufacturing process;

collecting non-production data by taking at least one measurement related to an entire manufacturing facility where the electronic device manufacturing process resides and not directly related to the electronic device manufacturing process;

performing calculations on the production data, wherein the measurements of the production data are taken over time and wherein the production data is weighted based on a time value;

performing calculations on the non-production data including weighting the non-production data based on distance between a sampling point for the non-production data and a process location;

keying production data;

keying non-production data;

combining the production data and the non-production data into a single data set;

analyzing said data set;

      examining the analysis of the data; and

      responding to the examination of the analysis; and

    a bus connecting the processor, input device, output device, communications interface device and storage device.

96.   (Original) The computer system of claim 95, wherein the responding includes an alert message displayed on the output device when the examination detects a trend in the data that is outside of expected results.

97.   (Original) The computer system of claim 95, wherein the responding includes an alert message displayed on the output device when the examination detects a data reading that is outside of expected results.

98.   (Original) The computer system of claim 95, wherein the responding includes an alert message displayed on the output device when the examination detects a trend in the data and a reading in the data that is outside of expected results.

99.   (Original) The computer system of claim 95, wherein the responding includes non-manually halting the manufacturing process when the examination detects a trend in the data that is outside of expected results.

100.   (Original) The computer system of claim 95, wherein the responding includes non-manually halting the manufacturing process when the examination detects a reading in the data that is outside of expected results.

101.   (Original) The computer system of claim 95, wherein the responding includes non-manually halting the manufacturing process when the examination detects a trend in the data and a reading in the data that is outside of expected results.

102.   (Previously Presented) A method of responding to out of specification conditions in electronic device manufacturing, comprising:

    collecting production data from at least one of a plurality of data sources by taking at least one measurement directly on an item that is undergoing processing in an electronic device manufacturing process;

    collecting non-production data from the of plurality of data sources separated by some non-fixed distance from a manufacturing process by taking at least one measurement related to an entire manufacturing facility where the electronic device manufacturing process resides and not directly related to the electronic device manufacturing process;

    performing calculations on the production data;

    performing weighted mean calculations on the non-production data, weighted by time, distance or distance/time;

    keying production data by adding the of a plurality of calculated production data to the production data from the production lots that were processed during the collection of the non-production data;

    combining the production data and the non-production data into a single data set;

    analyzing said data set; and

    examining the analysis of the data.

    combining the production data and the non-production data based on the defined relationships into a single data-set;

    analyzing the single data-set by trend or statistical analysis;

    examining the analysis of the data for the occurrence of readings or trends that are out of specifications; and

    responding to the examination of the analysis.

103.   (Original) The method of claim 102, wherein responding to the examination of the analysis includes stopping the manufacturing process where the examination detects out of specification readings or trends.

104.   (Original) The method of claim 102, wherein responding to the examination of the analysis includes continuing production where the examination detects no out of specification readings or trends.

105.   (Original) The method of claim 102, wherein the analyzing the single data-set includes analyzing a single data set remotely stored on a server.